

GLOBAL CLIMATE HIGHLIGHTS

MAJOR CLIMATIC EVENTS AND ANOMALIES AS OF MAY 25, 1991

1. Northern Alaska and Northwestern Canada:

MILD AND DRY WEATHER PROMOTES WILDFIRES.

Temperatures averaged 3°C to 6°C above normal, with the largest departures observed along the northern tier of the region. The persistently warm and relatively dry weather has created a high wildfire risk across much of Alaska. According to press reports, more than 30 square kilometers of a wildlife refuge were consumed [5 weeks].

2. Central United States:

MORE HEAVY RAINS.

Most of the lower Mississippi Valley, central and eastern Gulf Coast, and central Great Plains measured 35–100 mm of rain, with scattered similar totals recorded across the northern Great Plains, upper Midwest, and middle and upper Mississippi Valley. Heavier amounts (100–195 mm) inundated portions of the lower Mississippi Valley as well as parts of Oklahoma while extreme southern Florida was deluged by as much as 280 mm. In addition, totals of 85–200 mm fell for the second consecutive week across western sections of Cuba and the Bahamas. Since early April, 200–460 mm of excess rain has fallen along much of the central and eastern Gulf Coast and lower Mississippi Valley [9 weeks].

3. Eastern North America:

SUMMERLIKE CONDITIONS ENGULFS REGION.

After two weeks of slightly above normal temperatures, two successive weeks of hot weather baked much of the eastern half of the U.S. and adjacent Canada. Weekly departures of +4°C to +7°C afflicted the entire region, and temperatures of 30°C or higher were recorded as far north as central Manitoba and Winnipeg [4 weeks].

4. Western Europe and Northwestern Africa:

CHILLY AIR REMAINS LOCKED IN.

Much of Europe and north-central Africa again experienced weekly

temperatures 3°C to 7°C below normal. Daily departures reached -14°C in the Balkans [6 weeks].

5. Eastern Europe and the Northern Middle East:

ABOVE NORMAL PRECIPITATION CONTINUES.

Widespread moderate rains (20–50 mm) were observed, with heavier totals of 50–75 mm dampening parts of southern Poland, central and southern Yugoslavia, central Austria, northeastern Greece, and northern Turkey. Farther east, excessive precipitation pounded the Caucasus Mountains and eastern Black Sea coast, where scattered locations measured up to 220 mm. Since early April, surpluses of 50–160 mm have accumulated from central Germany southward through Italy and eastward through the western Ukraine, the Balkans, and the northwestern Middle East [7 weeks].

6. West-Central Africa:

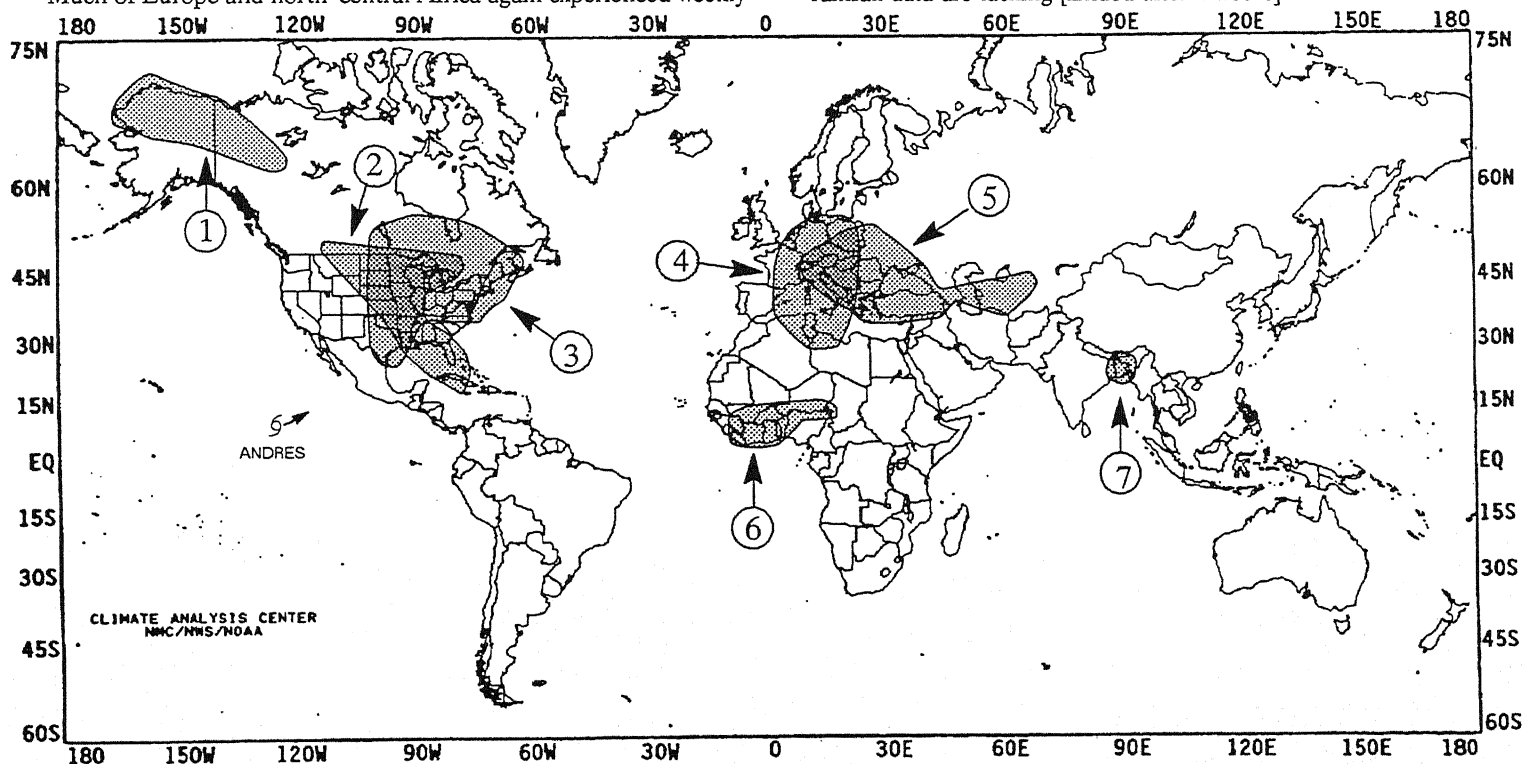
ABNORMALLY WET START TO RAINY SEASON.

Heavy rains continued pelting much of the region as moisture surpluses increased. Central Burkina Faso was inundated by 80–200 mm of rain while 40–100 mm was measured from southern Mali northeastward into central Niger. Since late April, between 2 and 4 times the normal rainfall was measured from northwestern Burkina Faso northeastward through central sections of Mali and Niger and eastward along the Niger/Nigeria border [5 weeks].

8. Bangladesh:

SLOW RECOVERY FROM CYCLONE 2B CONTINUES.

Another tornado tore through several villages last week, leaving thousands homeless and taking several lives. According to press reports, more than 200 additional lives have been lost since 2B exited the country, primarily due to river flooding and tornadoes. However, river levels and rainfall totals again declined during the week as conditions continued to slowly improve. Unfortunately, reliable rainfall data are lacking [Ended after 4 weeks].



EXPLANATION

TEXT: Approximate duration of anomalies is in brackets. Precipitation and temperature data are this week's values, unless otherwise indicated.
 MAP: Approximate locations of major anomalies and episodic events are shown. See other maps in this Bulletin for current two-week temperature anomalies, four-week precipitation anomalies, longer-term anomalies, and other details.

UNITED STATES WEEKLY CLIMATE HIGHLIGHTS

FOR THE WEEK OF MAY 19-25, 1991

Summer-like weather persisted for a second consecutive week across most of the eastern half of the nation. Record daily highs were reported from the southern High Plains to northern New England, with readings in the nineties as far north as central Maine (see front cover). Unusually warm conditions caused snow-melt flooding along several rivers in the Rockies, the Pacific Northwest, and Alaska. Warm and muggy conditions induced severe thunderstorms across the Great Plains, upper Midwest, and South. Heavy rains, hail, and up to a dozen tornadoes affected much of the central U.S. from Colorado to Wisconsin. Localized flooding affected northern Illinois and northwestern Indiana when up to 3 inches of rain fell in a twenty minute period. Flooding was also reported near Waterloo, IA after the Cedar River rose several feet above flood stage. Farther south, a storm system over the Gulf of Mexico drenched southern Florida and portions of the Gulf Coast with up to 11 inches of rain. Homestead, FL recorded over 6 inches of rain in a 6-hour period on Thursday. In contrast, unusually warm and dry conditions enhanced the spread of a wildfire at the Kenai Wildlife Refuge south of Anchorage, charring over 8000 acres. High temperatures soared into the seventies in southern Alaska, establishing record daily highs at some locations.

The week commenced with a high pressure system centered in southeastern Canada keeping unseasonably cold weather across the northern tier of the U.S. and portions of New England. Record lows were observed from the northern Rockies to the Great Lakes and along the north Atlantic Coast. Atlantic City, NJ observed a third consecutive record low Tuesday morning when the mercury dropped to 38°F. To the south, a stationary front wound its way from northern Florida to the central Great Plains. Unseasonably warm and humid conditions prevailed from the Southeast to portions of the High Plains. Strong thunderstorms erupted along the front, spreading heavy rain from the Gulf coast to the central Plains. Over 4 inches of rain fell on Apalachicola, FL on Monday while brief, heavy rains caused flooding in parts of Kentucky and Oklahoma. Farther west, heavy rain combined with rapidly melting snow to generate flooding along several rivers from New Mexico to Washington. In Alaska, flooding along the Yukon river affected the towns of Alakanuk and Emmonak, closing several roads.

During the latter half of the week, the high in southern Canada pushed off the Atlantic Coast. Summery weather spread into the East and record highs were reported in New England and the Ohio Valley as readings soared into the nineties. In addition to the warm days, mild nights produced record high minimum temperatures in the Great Lakes and Midwest. Farther west, an area of low pressure

tracked out of the Rockies, generating severe weather across portions of the High Plains. Nearly half a dozen tornadoes touched down in parts of Colorado, Wyoming, and Texas. A secondary area of low pressure in the northern Plains generated severe thunderstorms across the Midwest and Ohio Valley that downed trees and power lines and caused localized flooding. Farther south, more heavy rains fell along the Gulf Coast. Parts of Louisiana and Mississippi received up to 6 inches of rain on already-saturated ground, flooding parts of the region.

According to the River Forecast Centers, the greatest weekly totals (more than 2 inches) were recorded in the south-central Rockies and Great Plains, the lower Mississippi and Tennessee valleys, Florida, coastal Georgia, the coastal Plains of North Carolina, the central Appalachians, western and southern sections of the Ohio Valley, most of the Great Lakes, and much of the upper Midwest and northern Plains (Table 1). Light to moderate totals were measured across most of the mid-Atlantic, the Southeast, the Mississippi Valley, the Great Plains, the remainder of the central and southern Rockies, and portions of the Pacific Northwest and Aleutian Islands. Little or no precipitation fell on New England, the eastern sections of the Ohio Valley, central sections of the mid-Atlantic, the northern Rockies, the Southwest, the Far West, most of Alaska and Hawaii. Well below normal rainfall has been recorded through much of the eastern Ohio valley, central Appalachians, and mid-Atlantic since early April. Some locations have received less than half the normal precipitation during the period (Figure 1).

Unseasonably warm weather enveloped most of the contiguous U.S. west of the Great Basin. Weekly departures between +10°F and +12°F were recorded from the northern Plains to portions of the Ohio Valley despite unseasonably cool weather early in the week (Table 2). Weekly departures of +4°F to +9°F were common from the western Rockies to the north Atlantic Coast. Near to slightly above normal temperatures were observed across southern Texas and interior sections of northern and central California. Unusually mild conditions also covered most of Alaska. Weekly departures up to +9°F were recorded at Barrow and Kodiak while readings across most of the remaining areas were 2°F to 5°F above normal.

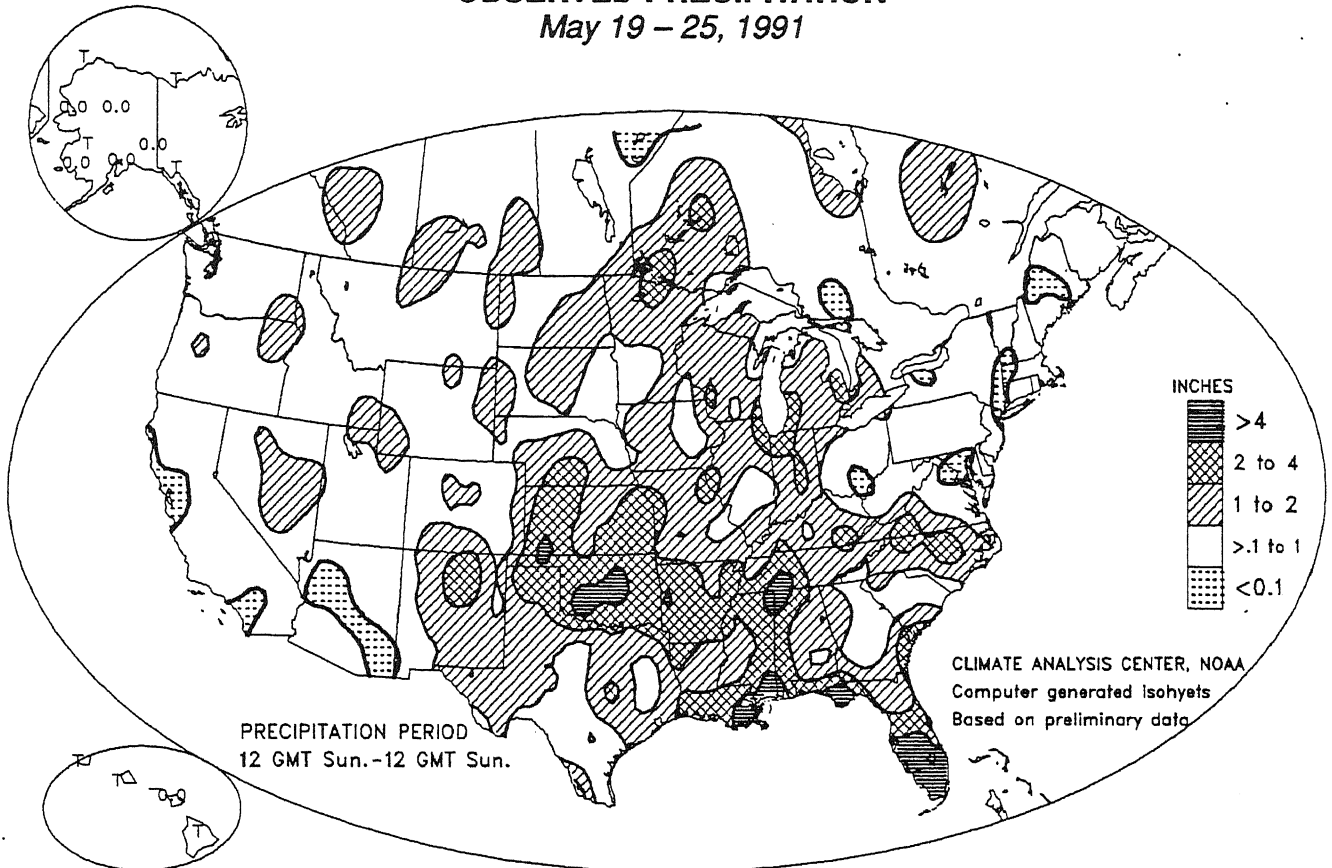
Unseasonably cold conditions prevailed in the western quarter of the country and across the Carolinas. Departures down to -5°F were observed across portions of the Intermountain West while departures reached -4°F in the Carolinas (Table 3). In Alaska, unseasonably cold weather was confined to extreme western coastal areas, where temperatures averaged as much as -3°F below normal.

**TABLE 1. SELECTED STATIONS WITH 3.00 OR MORE INCHES OF PRECIPITATION
DURING THE WEEK OF MAY 19 - 25, 1991**

<u>STATION</u>	<u>TOTAL (INCHES)</u>	<u>STATION</u>	<u>TOTAL (INCHES)</u>
KEY WEST NAS, FL	10.84	ALTUS AFB, OK	3.56
HOMESTEAD AFB, FL	10.79	FORT MYERS, FL	3.52
APALACHICOLA, FL	8.67	MELBOURNE, FL	3.41
NEW ORLEANS/LAKE FRONT, LA	7.66	CAPE CANAVERAL, FL	3.40
KEY WEST, FL	6.62	OKLAHOMA CITY/TINKER AFB, OK	3.38
BILOXI/KEESLER AFB, MS	5.58	SAVANNAH/HUNTER AFB, GA	3.38
WEST PALM BEACH, FL	5.40	PONCA CITY, OK	3.32
NEW ORLEANS NAS, LA	5.30	ORLANDO, FL	3.32
FT. SILL/HENRY POST, OK	4.95	HOBART, OK	3.24
NEW ORLEANS/MOISANT, LA	4.89	CRESTVIEW, FL	3.17
PANAMA CITY/TYNDALL AFB, FL	4.81	GRAND RAPIDS, MI	3.07
GARDEN CITY, KS	3.99	MEMPHIS, TN	3.02
TAMPA/MACDILL AFB, FL	3.59		

OBSERVED PRECIPITATION

May 19 – 25, 1991



DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL (°F)

May 19 – 25, 1991

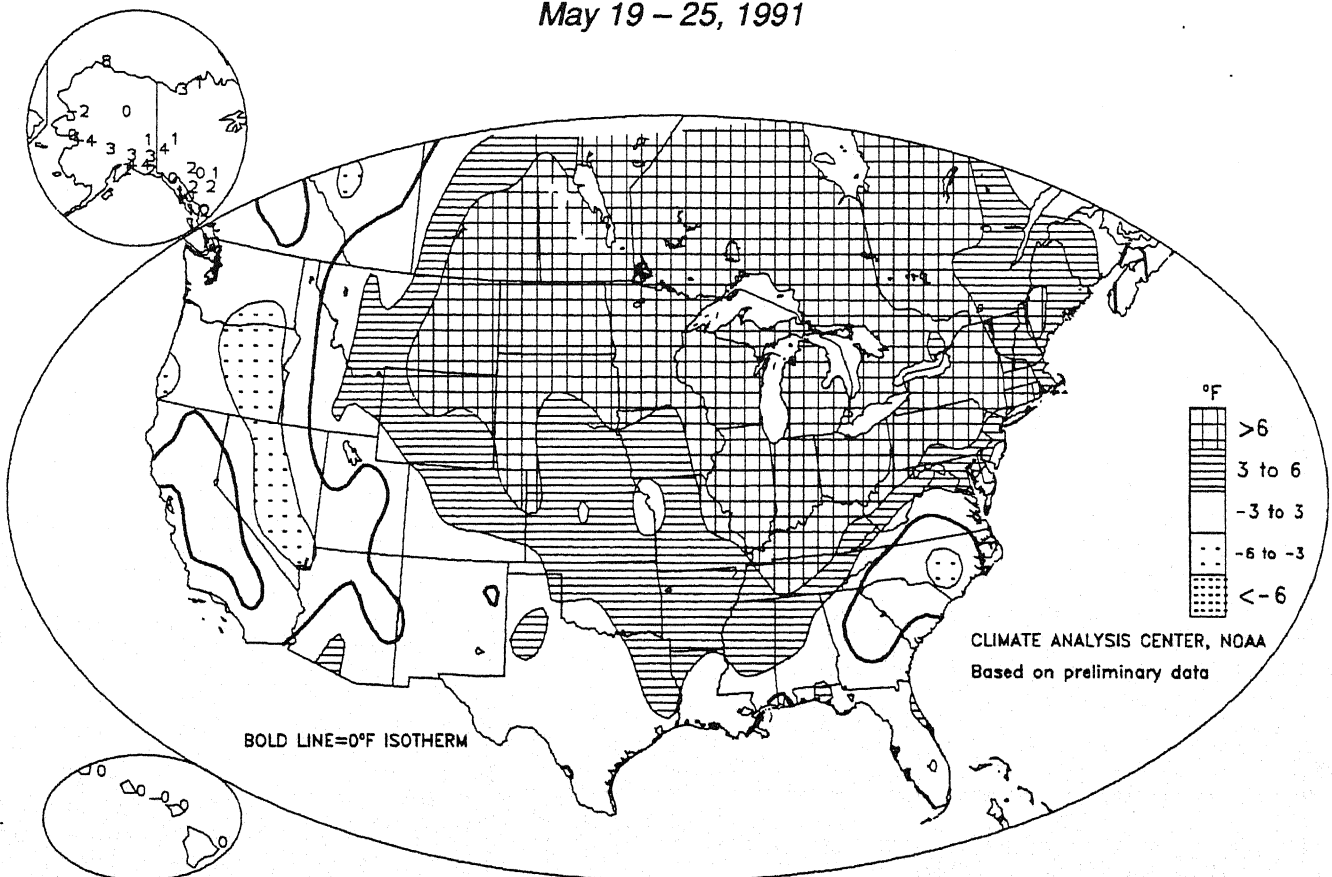


TABLE 2. SELECTED STATIONS WITH TEMPERATURES AVERAGING 9.5°F OR MORE ABOVE NORMAL FOR THE WEEK OF MAY 19 - 25, 1991

<u>STATION</u>	<u>DEPARTURE</u> (°F)	<u>AVERAGE</u> (°F)	<u>STATION</u>	<u>DEPARTURE</u> (°F)	<u>AVERAGE</u> (°F)
INTERNATIONAL FALLS, MN	+12.3	65.9	EAU CLAIRE, WI	+10.2	69.2
DEVIL'S LAKE, ND	+12.1	66.6	MARQUETTE, MI	+10.2	62.7
ERIE, PA	+11.6	69.1	SAULT STE. MARIE, MI	+10.2	61.9
GRAND FORKS, ND	+11.5	68.2	SOUTH BEND, IN	+10.1	71.1
HANCOCK/HOUGHTON CO, MI	+11.5	63.2	MUSKEGON, MI	+10.0	68.1
AKRON, OH	+11.1	71.9	YOUNGSTOWN, OH	+9.9	69.1
ALEXANDRIA, MN	+11.0	68.8	TOLEDO, OH	+9.8	70.5
BUFFALO, NY	+10.8	69.1	WILLISTON, ND	+9.7	66.5
COLUMBUS, OH	+10.7	74.1	JAMESTOWN, ND	+9.7	66.3
FARGO, ND	+10.7	68.6	HOUGHTON LAKE, MI	+9.7	65.6
CHAMPAIGN, IL	+10.5	74.4	WARROAD, MN	+9.6	63.6
ST. CLOUD, MN	+10.4	68.3	TRAVERSE CITY, MI	+9.5	65.1
PARK FALLS, WI	+10.3	65.9	KODIAK, AK	+9.5	53.7
DULUTH, MN	+10.3	62.4			

TABLE 3. SELECTED STATIONS WITH TEMPERATURES AVERAGING 2.5°F OR MORE BELOW NORMAL FOR THE WEEK OF MAY 19 - 25, 1991

<u>STATION</u>	<u>DEPARTURE</u> (°F)	<u>AVERAGE</u> (°F)	<u>STATION</u>	<u>DEPARTURE</u> (°F)	<u>AVERAGE</u> (°F)
MEACHAM, OR	-5.7	43.9	SEXTON SUMMIT, OR	-3.1	47.4
PENDLETON, OR	-5.1	54.9	WINNEMUCCA, NV	-3.0	53.6
WALLA WALLA, WA	-5.0	56.6	DANVILLE, VA	-3.0	66.5
LOS ANGELES, CA	-4.7	58.5	KOTZEBUE, AK	-2.8	32.3
BURNS, OR	-4.2	49.7	STAMPEDE PASS, WA	-2.8	41.1
FAYETTEVILLE, NC	-3.7	67.8	WINSLOW, AZ	-2.8	61.5
SANTA BARBARA, CA	-3.4	56.3	SAN DIEGO/LINDBERGH, CA	-2.7	61.4
LONG BEACH, CA	-3.4	61.9	PORTLAND, OR	-2.5	55.4
GOLDSBORO/JOHNSON AFB, NC	-3.3	68.4	GREENVILLE, SC	-2.5	67.7
TONOPAH, NV	-3.2	55.7	ANDERSON, SC	-2.5	68.6

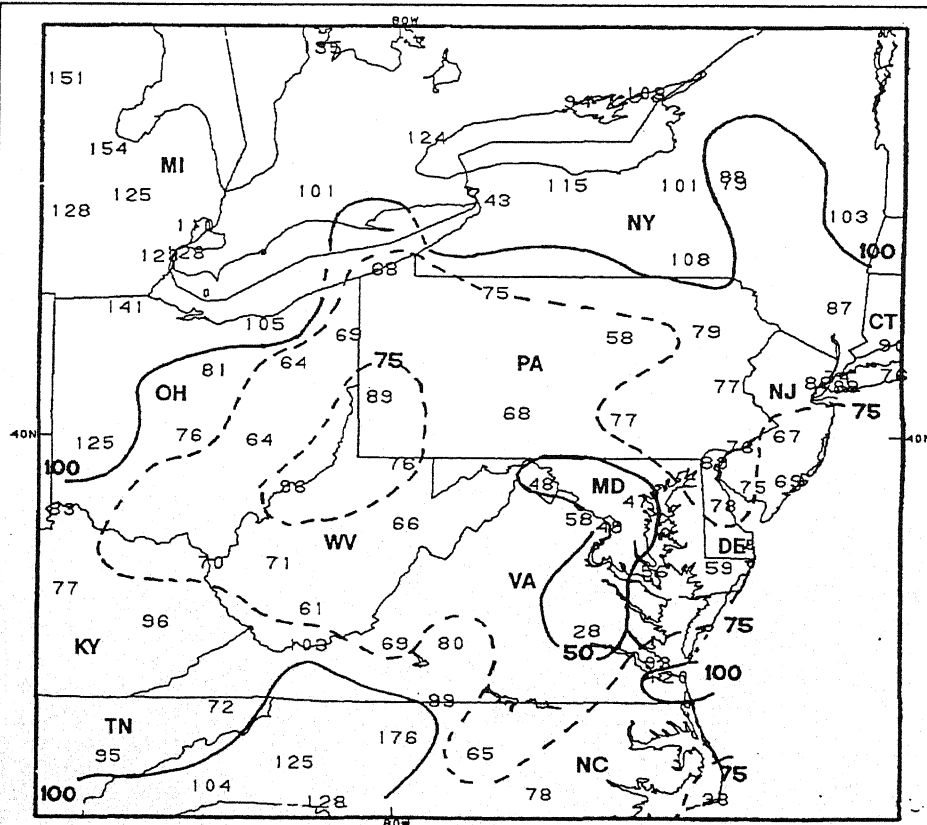
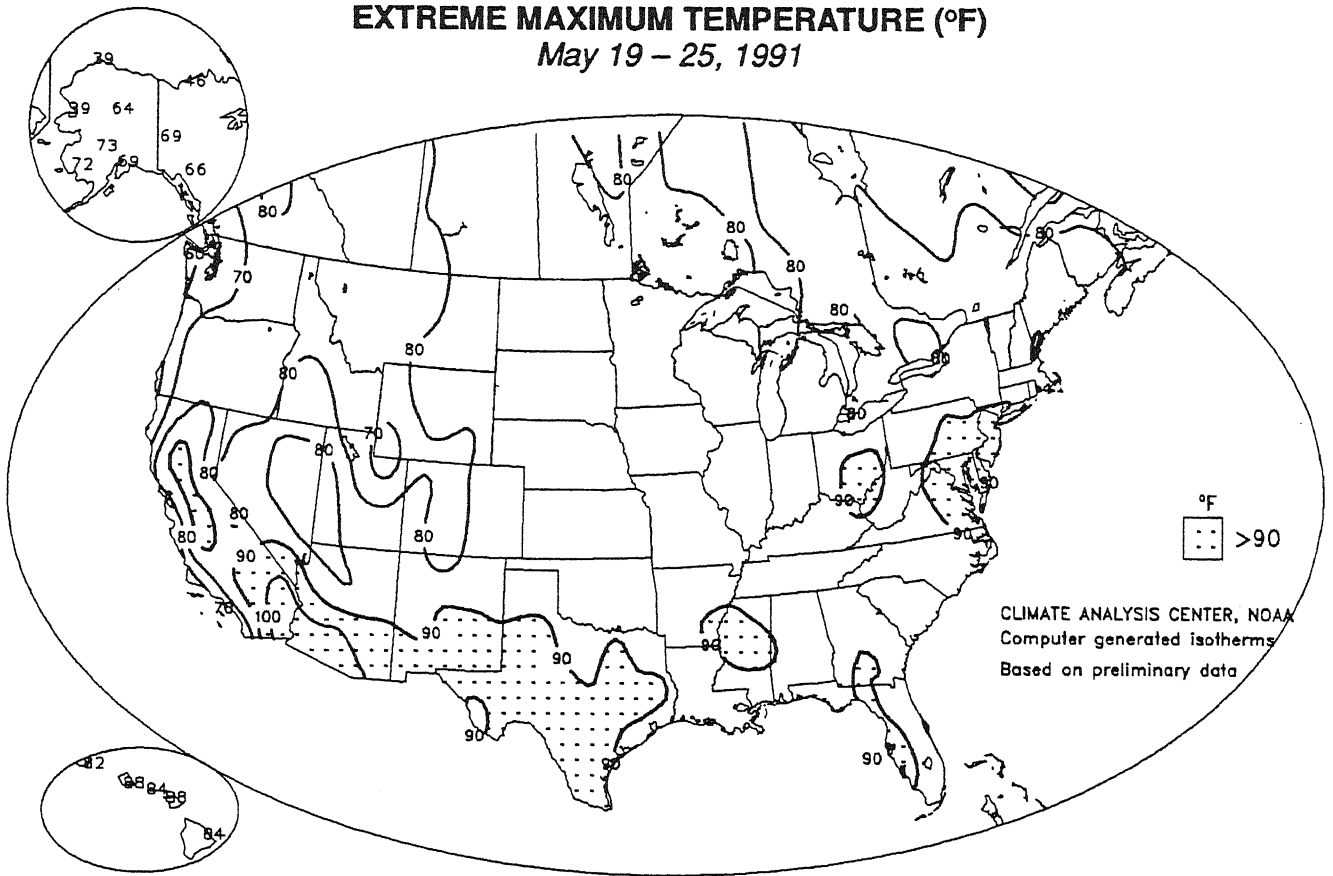


FIGURE 1. Percent of Normal Precipitation during April 1 - May 25, 1991. Isopleths drawn for 100%, 75%, and 50% only. While parts of the central U. S. have been inundated with rain, portions of the eastern Ohio Valley, central Appalachians, and mid-Atlantic have measured well below normal rainfall since the beginning of April. Less than half the normal amount fell on much of Maryland and portions of central Virginia during the period, where deficits exceeding 3 inches have accumulated in spots.

EXTREME MAXIMUM TEMPERATURE (°F)

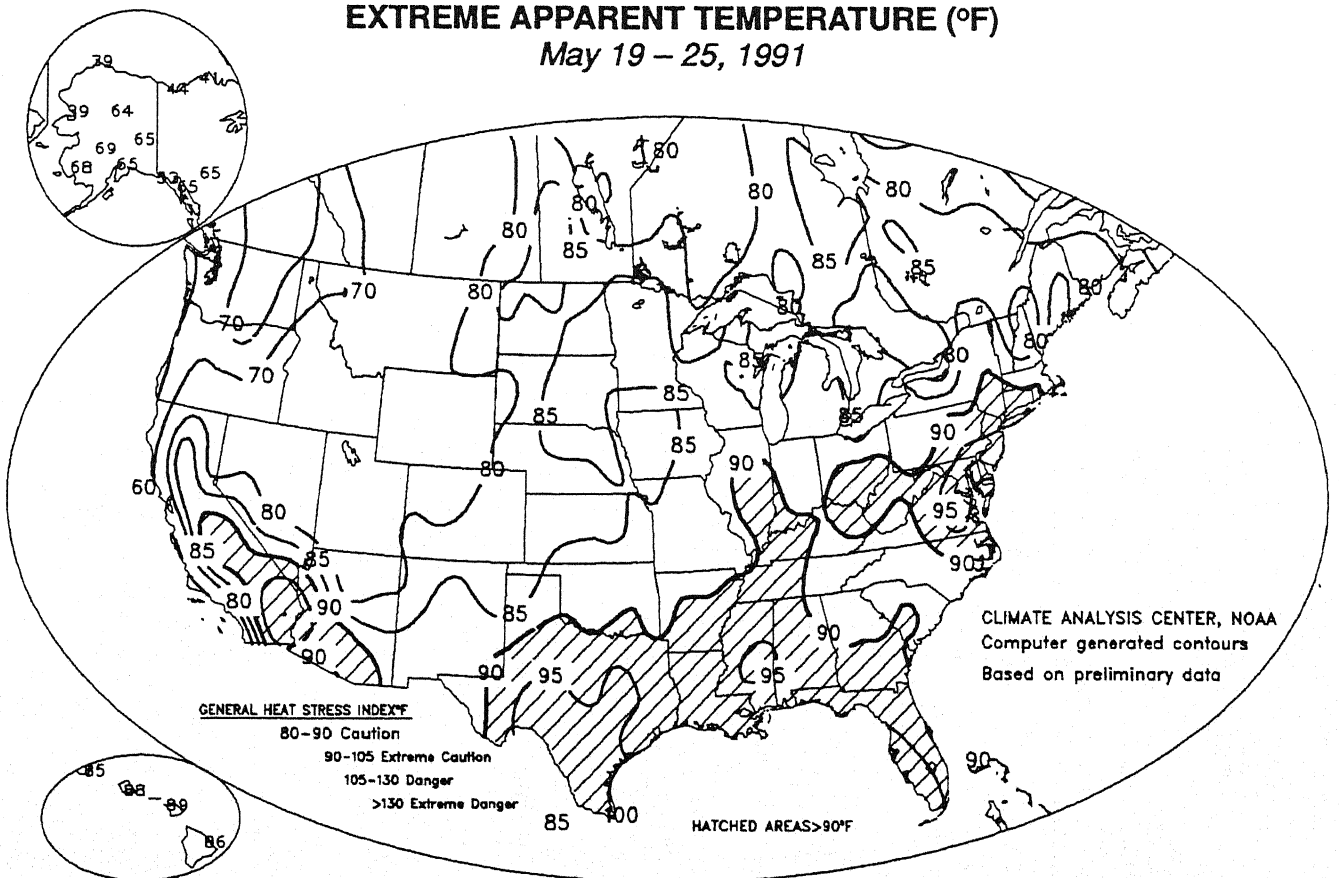
May 19 – 25, 1991



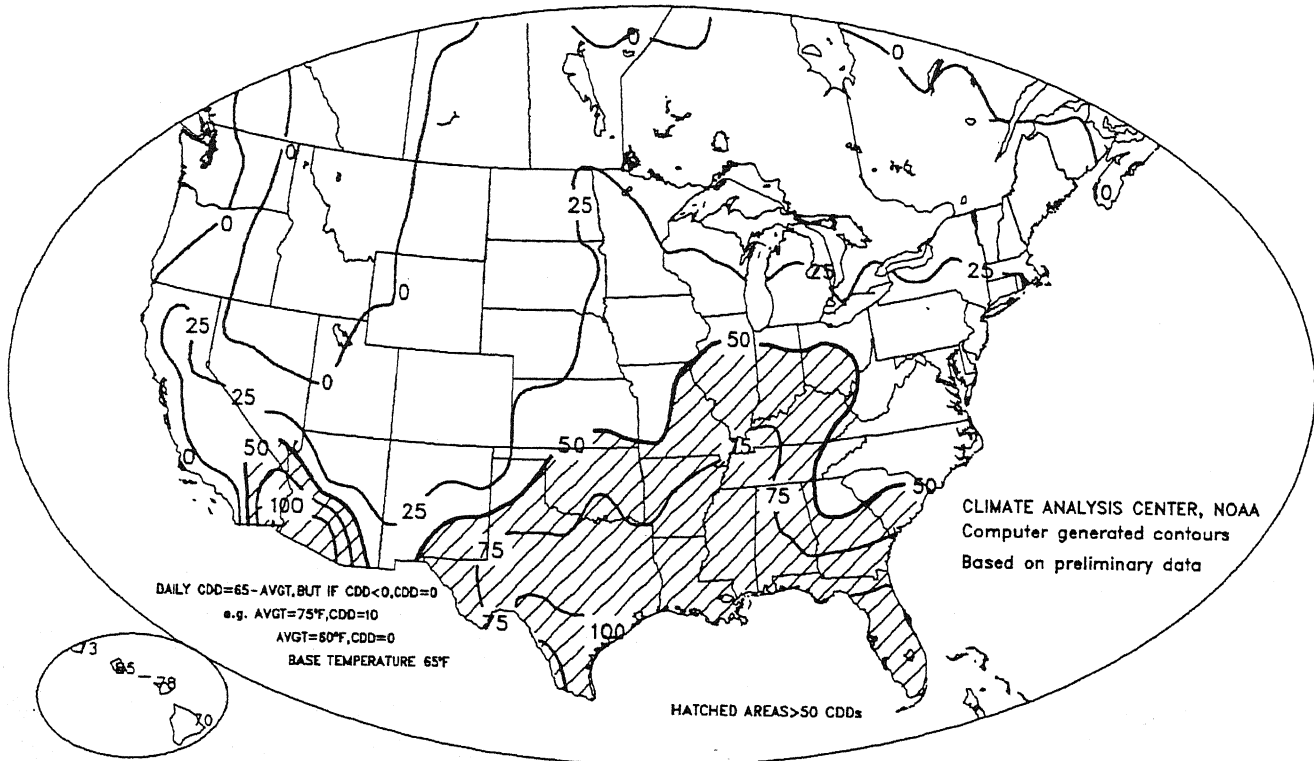
A ridge of high pressure just off the Atlantic coast locked hot weather into the eastern two-thirds of the nation. Highs exceeded 80°F northward into much of Canada (top). The heat combined with high humidity to produce oppressive apparent temperatures (>95°F) in portions of the southern Plains, Southeast, and Mid-Atlantic (bottom).

EXTREME APPARENT TEMPERATURE (°F)

May 19 – 25, 1991

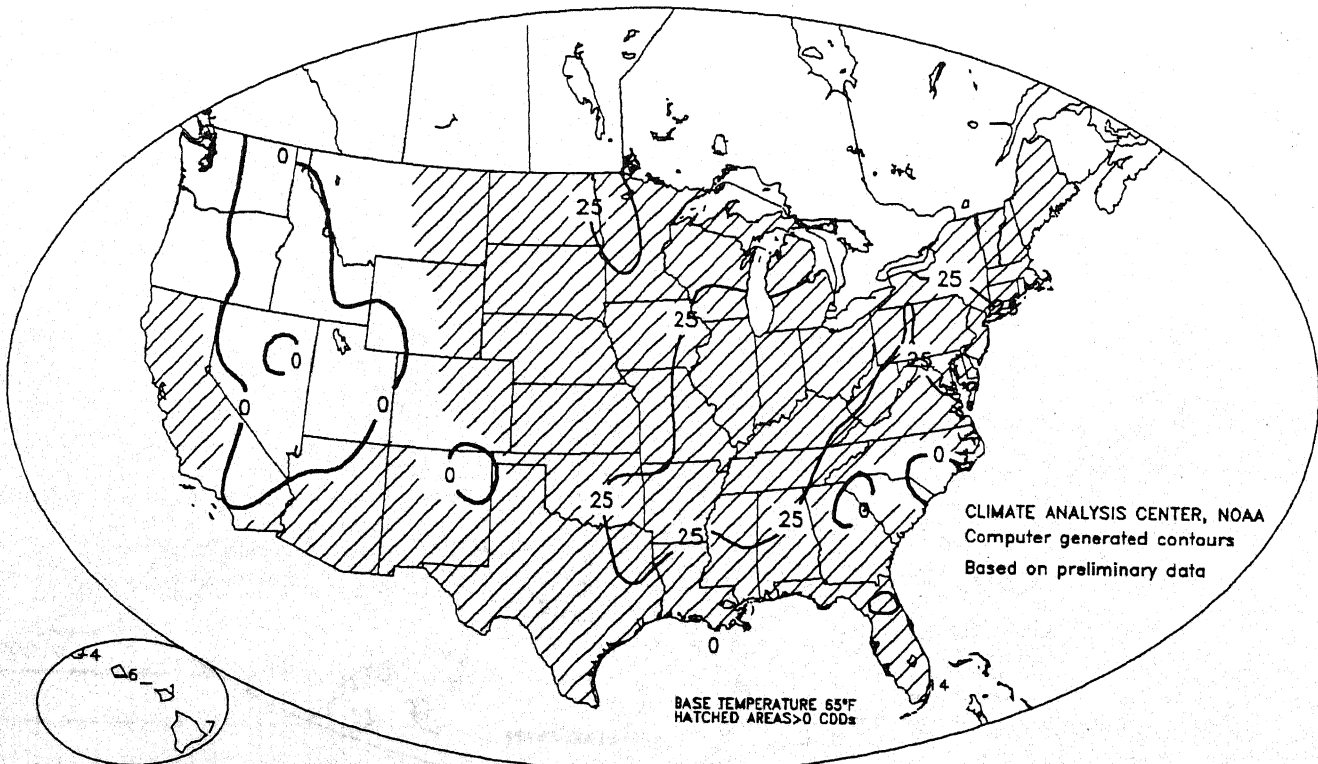


WEEKLY TOTAL COOLING DEGREE DAYS May 19 - 25, 1991



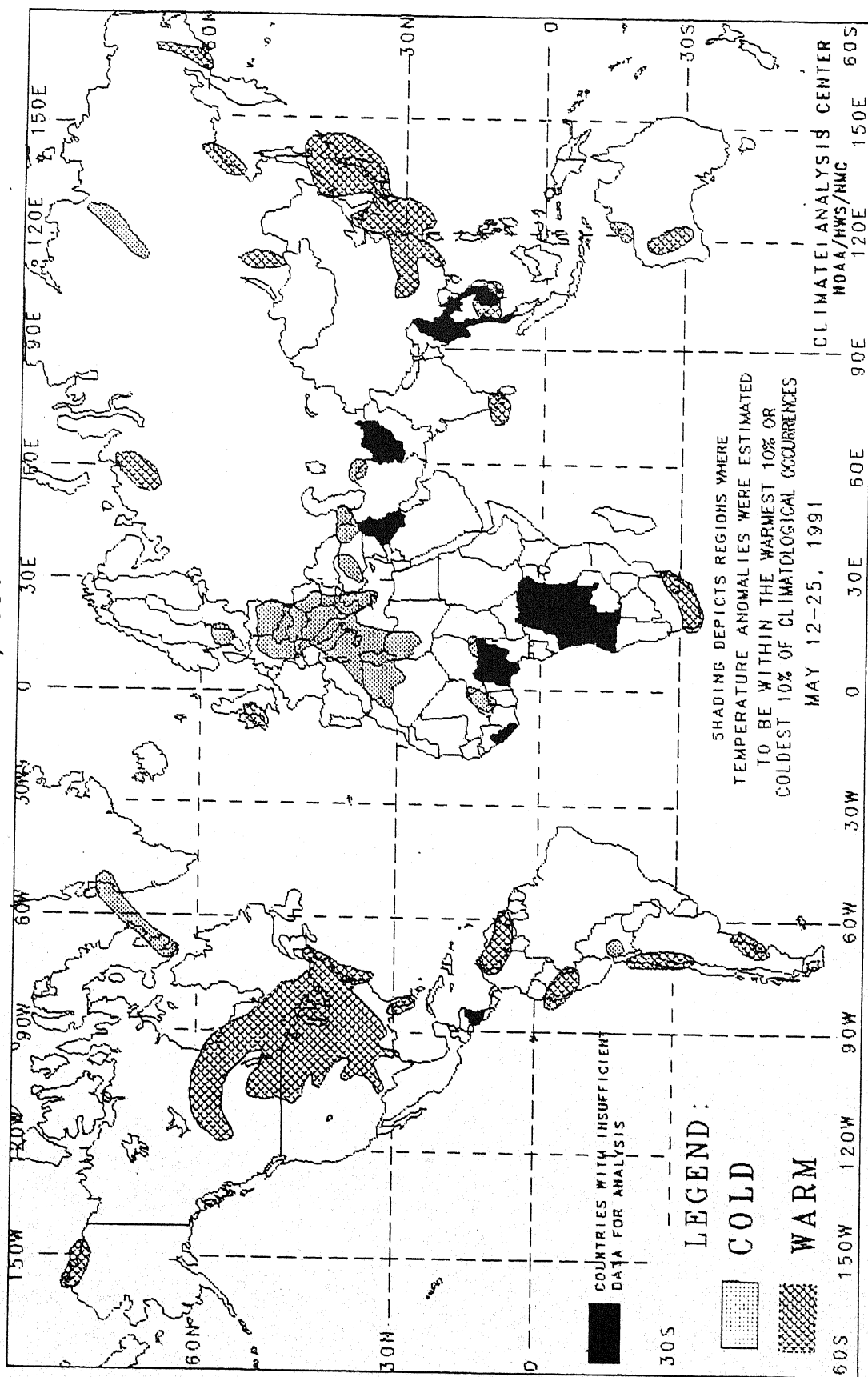
JUNE 8, 1991 WILL BE THE LAST ISSUE IN WHICH DEGREE DAY MAPS WILL APPEAR IN THE WEEKLY CLIMATE BULLETIN ON A REGULAR BASIS. CONTACT THE CLIMATE ANALYSIS CENTER FOR FURTHER INFORMATION (ADDRESS AND PHONE NUMBER ON INSIDE FRONT COVER).

WEEKLY DEPARTURE FROM NORMAL CDD May 19 - 25, 1991



2-WEEK GLOBAL TEMPERATURE ANOMALIES

MAY 12 - 25, 1991



The anomalies on this chart are based on approximately 2500 observing stations for which at least 13 days of temperature observations were received from synoptic reports. Many stations do not operate on a twenty-four hour basis so many night time observations are not taken. As a result of these missing observations the estimated minimum temperature may have a warm bias. This in turn may have resulted in an overestimation of the extent of some warm anomalies.

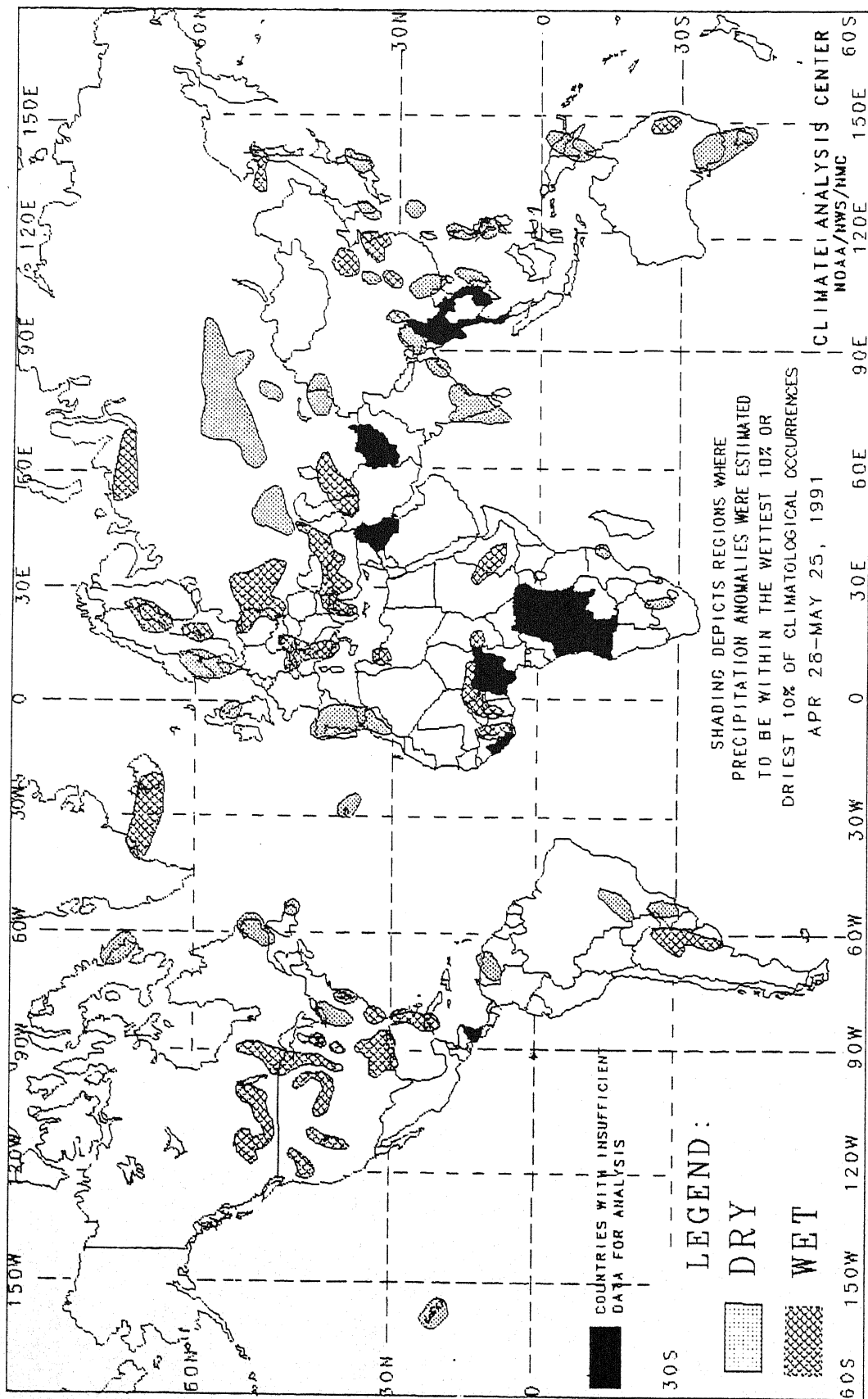
Temperature anomalies are not depicted unless the magnitude of temperature departures from normal exceeds 1.5°C.

In some regions, insufficient data exist to determine the magnitude of anomalies. These regions are located in parts of tropical Africa, southwestern Asia, interior equatorial South America, and along the Arctic Coast. Either current data are too sparse or incomplete for analysis, or historical data are insufficient for determining percentiles, or both. No attempt has been made to estimate the magnitude of anomalies in such regions.

This chart shows general areas of two week temperature anomalies. Caution must be used in relating it to local conditions, especially in mountainous regions.

4-WEEK GLOBAL PRECIPITATION ANOMALIES

APRIL 28 - MAY 25, 1991



The anomalies on this chart are based on approximately 2500 observing stations for which at least 27 days of precipitation observations (including zero amounts) were received or estimated from synoptic reports. As a result of both missing observations and the use of estimates from synoptic reports (which are conservative), a dry bias in the total precipitation amount may exist for some stations used in this analysis. This in turn may have resulted in an overestimation of the extent of some dry anomalies.

In climatologically arid regions where normal precipitation for the four week period is less than 20 mm, dry anomalies are not depicted. Additionally, wet anomalies for such arid regions are not depicted unless the total four week precipitation exceeds 50 mm.

In some regions, insufficient data exist to determine the magnitude of anomalies. These regions are located in parts of tropical Africa, southwestern Asia, interior equatorial South America, and along the Arctic Coast. Either current data are too sparse or incomplete for analysis, or historical data are insufficient for determining percentiles, or both. No attempt has been made to estimate the magnitude of anomalies in such regions.

The chart shows general areas of four week precipitation anomalies. Caution must be used in relating it to local conditions, especially in mountainous regions.